

Atty. Docket No. YOR920010539US1

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(590.076)

**Amendments to the Claims:****OCT 09 2007**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. **(Currently Amended)** An apparatus for facilitating clustering of speech and audio data, said apparatus comprising:

an arrangement for obtaining untrained speech and audio data as input data; and

an arrangement for creating a predetermined number of non-overlapping subsets of the input data;

said arrangement for creating a predetermined number of non-overlapping subsets being adapted to split the input data recursively;

said clustering being independent of any model wherein the splitting of the input data into a predetermined number of non-overlapping subsets occurs independent of model;

wherein there is no variability in the clustering due to randomness.

2. **(Original)** The apparatus according to Claim 1, wherein said arrangement for creating a predetermined number of non-overlapping subsets is adapted to initially split the input data into at least two sets of output data.

Atty. Docket No. YOR920010539US1  
(590.076)

3. **(Original)** The apparatus according to Claim 2, wherein said arrangement for creating a predetermined number of non-overlapping subsets is adapted to:

split the at least two sets of output data recursively; and

repeat the recursive splitting of output data sets until the predetermined number of non-overlapping subsets is obtained.

4. **(Original)** The apparatus according to Claim 2, wherein said arrangement for creating a predetermined number of non-overlapping subsets is adapted to determine an eigenvector decomposition relating to the input data.

5. **(Original)** The apparatus according to Claim 4, wherein said arrangement for creating a predetermined number of non-overlapping subsets is adapted to determine a vector of projection coefficients onto the set of eigenvectors in the eigenvector decomposition.

6. **(Previously Presented)** The apparatus according to Claim 5, wherein said arrangement for creating a predetermined number of non-overlapping subsets is adapted to determine a probability distribution relating to the vector of projection coefficients.

7. **(Currently Amended)** The apparatus according to Claim 6, wherein said arrangement for creating a predetermined number of non-overlapping subsets is adapted to:

assign at least one threshold relating to the probability ~~density~~ distribution; and

Atty. Docket No. YOR920010539US1  
(590.076)

yield the at least two sets of output data based on the relation to the threshold of a value associated with a function relating to the projection coefficients.

8. **(Original)** The apparatus according to Claim 7, wherein there are  $N-1$  thresholds, where  $N$  is the number of sets of output data to be yielded.

9. **(Previously Presented)** The apparatus according to Claim 8, wherein each threshold is a value of the function relating to the projection coefficients for which the probability distribution equals  $m/N$ , where  $m$  is a number from 1 to  $N-1$ .

10. **(Original)** The apparatus according to Claim 1, wherein the data clustering relates to the enrollment of target speakers in a speaker verification system.

11. **(Currently Amended)** A method of facilitating clustering of speech and audio data, said method comprising the steps of:

obtaining untrained speech and audio data as input data; and

creating a predetermined number of non-overlapping subsets of the input data;

step of creating a predetermined number of non-overlapping subsets comprising splitting the input data recursively;

said clustering being independent of any model wherein the splitting of the input data into a predetermined number of non-overlapping subsets occurs independent of a model;

wherein there is no variability in the clustering due to randomness.

Atty. Docket No. YOR920010539US1  
(590.076)

12. **(Original)** The method according to Claim 11, wherein said splitting step comprises initially splitting the input data into at least two sets of output data.

13. **(Original)** The method according to Claim 12, wherein said splitting step comprises:

splitting the at least two sets of output data recursively; and

repeating the recursive splitting of output data sets until the predetermined number of non-overlapping subsets is obtained.

14. **(Original)** The method according to Claim 12, wherein said splitting step comprises determining an eigenvector decomposition relating to the input data.

15. **(Original)** The method according to Claim 14, wherein said splitting step further comprises determining a vector of projection coefficients onto the set of eigenvectors in the eigenvector decomposition.

16. **(Previously Presented)** The method according to Claim 15, wherein said splitting step further comprises determining a probability distribution relating to the vector of projection coefficients.

17. **(Previously Presented)** The method according to Claim 16, wherein said splitting step further comprises:

assigning at least one threshold relating to the probability distribution; and

Atty. Docket No. YOR920010539US1  
(590.076)

yielding the at least two sets of output data based on the relation to the threshold of a value associated with a function relating to the projection coefficients.

18. **(Original)** The method according to Claim 17, wherein there are  $N-1$  thresholds, where  $N$  is the number of sets of output data to be yielded.

19. **(Previously Presented)** The method according to Claim 18, wherein each threshold is a value of the function relating to the projection coefficients for which the probability distribution equals  $m/N$ , where  $m$  is a number from 1 to  $N-1$ .

20. **(Original)** The method according to Claim 1, wherein the data clustering relates to the enrollment of target speakers in a speaker verification system.

21. **(Currently Amended)** A program storage device readable by machine, tangibly embodying a program of instructions executable by the machine to perform method steps for facilitating clustering of speech and audio data, said method comprising the steps of:

obtaining untrained speech and audio data as input data; and

creating a predetermined number of non-overlapping subsets of the input data;

step of creating a predetermined number of non-overlapping subsets comprising splitting the input data recursively;

Atty. Docket No. YOR920010539US1  
(590.076)

said clustering being independent of any model wherein the splitting of the input data into a predetermined number of non-overlapping subsets occurs independent of a model;

wherein there is no variability in the clustering due to randomness.